

Year 4 What is Computer Technology? Knowledge Organiser v2

This will be the first unit on Computer Science that the pupils will have encountered.

Key Learning	Self-Assessment		
	WT	A	WA
I can explain the difference between hardware and software			
I can explain the difference between an input and an output device			
I can name the internal parts of a computer that make it work			
I know that data stored in the computer's memory are called BITS			
I know that a BIT can either be 1 or 0			
I know how the RAM helps the CPU to carry out tasks			
I know that 8 bits is known as a 1 byte			
I can explain what a pixel is			
I understand how a computer stores the data required to display a black and white image			
I understand binary data and can re-create a binary image following bit data			
I know that coloured images have more data per pixel than a black and white image.			



New key words we will use in Year 4 What is Computer Technology?

Hardware – physical parts that make up a computer

Software – programs which tell a computer what to do

Input – allows information and data to be put into a computer through a device e.g. keyboard, microphone

Output – allows the computer to send information and data out to the user through a device e.g. screen, speakers

Central Processing Unit (CPU) – acts like the brain of the computer which receives the data and instructions and carries out what to do with the data it has been given

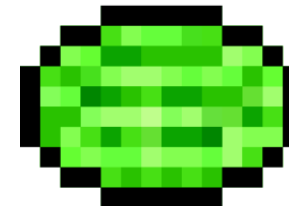
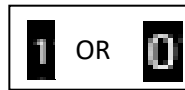
Random Access Memory (RAM) – is where the CPU's short-term data is stored. It stores the information the CPU is actively using so that it can be accessed quickly. Files cannot be stored here as the RAM is cleared every time you turn off the computer

BITS – The basic unit of everything in a computer's memory. Each is stored in a memory cell which switches between two states 0 and 1

Byte – Eight bits together are called a byte

Hard drive – is for long term storage and files. This data is kept even when the computer is turned off

Pixel – short for picture element. Images are broken down into tiny elements called pixels for a computer to store the image



0	0	0	0	0	0	0	0	0	0
0	1	1	1	0	1	1	1	0	0
0	1	1	1	0	1	1	1	0	0
0	1	1	1	1	1	1	1	1	0
0	1	1	1	1	1	1	1	1	0
0	0	0	1	1	1	0	0	0	0
0	0	0	0	1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0

Who uses skills like these?

- IT systems manager and engineer
- Software engineer
- Robotics – designers, creators and programmers
- Web developers and web designers
- Computer game developers and designers